



SEQUENCE LISTING

<110> Zinselmeier, Chris
Habben, Jeff
Tomes, Dwight

<120> Regulated Expression of Genes in Plant
Seeds

<130> 0803

<140> US 09/545,334

<141> 2000-04-07

<150> US 60/129,844

<151> 1999-04-16

<160> 12

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1608

<212> DNA

<213> Zea mays

<220>

<221> CDS

<222> (1)...(1605)

<400> 1

atg gcg gtg gtt tat tac ctg ctg ctg gcc ggg ctg atc gcc tgc tct	48
Met Ala Val Val Tyr Tyr Leu Leu Leu Ala Gly Leu Ile Ala Cys Ser	
1 5 10 15	

cat gca cta gcg gca ggc acg ctt gcg ctc gga gaa gat cgc ggc cgt	96
His Ala Leu Ala Ala Gly Thr Leu Ala Leu Gly Glu Asp Arg Gly Arg	
20 25 30	

ccc tgg cca gcc ttc ctc gcc gcg ctg gcc ttg gac ggc aag ctc cgg	144
Pro Trp Pro Ala Phe Leu Ala Ala Leu Ala Leu Asp Gly Lys Leu Arg	
35 40 45	

acc gac agc aac gcg acg gcg gcg gcc tcg acg gac ttc ggc aac atc	192
Thr Asp Ser Asn Ala Thr Ala Ala Ala Ser Thr Asp Phe Gly Asn Ile	
50 55 60	

acg tcg gcg ctc ccg gcg gcg gtc cta tac ccg tcg tcc acg ggc gac	240
Thr Ser Ala Leu Pro Ala Ala Val Leu Tyr Pro Ser Ser Thr Gly Asp	
65 70 75 80	

ctg gtg gcg ctg ctg agc gcg gcc aac tcc acc ccg ggg tgg ccc tac	288
Leu Val Ala Leu Leu Ser Ala Ala Asn Ser Thr Pro Gly Trp Pro Tyr	
85 90 95	

acc atc gcg ttc cgc ggc cgc ggc cac tcc ctc atg ggc cag gcc ttc	336
Thr Ile Ala Phe Arg Gly Arg Gly His Ser Leu Met Gly Gln Ala Phe	
100 105 110	

gcc ccc ggc ggg gtg gtc gtc aac atg gcg tcc ctg ggc gac gcc gcc Ala Pro Gly Gly Val Val Val Asn Met Ala Ser Leu Gly Asp Ala Ala 115 120 125	384
gcc gcc gcg ccg ccg cgc gtc aac gtg tcc gcg gac ggc cgc tac gtg Ala Ala Ala Pro Pro Arg Val Asn Val Ser Ala Asp Gly Arg Tyr Val 130 135 140	432
gac gcc ggc ggc gag cag gtg tgg atc gac gtg ctg cgc gcg tct ctg Asp Ala Gly Gly Glu Gln Val Trp Ile Asp Val Leu Arg Ala Ser Leu 145 150 155 160	480
gcg cgc ggc gtg gcg ccg cgc tcc tgg acc gac tac ctc tac ctc acc Ala Arg Gly Val Ala Pro Arg Ser Trp Thr Asp Tyr Leu Tyr Leu Thr 165 170 175	528
gtc ggc ggc acg ctg tcc aac gca ggc atc agc ggc cag gcg ttc cgc Val Gly Gly Thr Leu Ser Asn Ala Gly Ile Ser Gly Gln Ala Phe Arg 180 185 190	576
cac ggc cca cag ata tct aac gtg ctg gag atg gac gtt atc acc ggc His Gly Pro Gln Ile Ser Asn Val Leu Glu Met Asp Val Ile Thr Gly 195 200 205	624
cat ggg gag atg gtg acg tgc tcc aag cag ctg aac gcg gac ctg ttc His Gly Glu Met Val Thr Cys Ser Lys Gln Leu Asn Ala Asp Leu Phe 210 215 220	672
gac gcc gtc ctg ggc ggg ctg ggg cag ttc gga gtg atc acc cgg gcc Asp Ala Val Leu Gly Gly Leu Gly Gln Phe Gly Val Ile Thr Arg Ala 225 230 235 240	720
cgg atc gcg gtg gag ccg gcg ccg gcg cgg gcg cgg tgg gtg cgg ctc Arg Ile Ala Val Glu Pro Ala Pro Ala Arg Ala Arg Trp Val Arg Leu 245 250 255	768
gtg tac acc gac ttc gcg gcg ttc agc gcc gac cag gag cgg ctg acc Val Tyr Thr Asp Phe Ala Ala Phe Ser Ala Asp Gln Glu Arg Leu Thr 260 265 270	816
gcc ccg cgg ccc ggc ggc ggc ggc gcg tcg ttc ggc ccg atg agc tac Ala Pro Arg Pro Gly Gly Gly Gly Ala Ser Phe Gly Pro Met Ser Tyr 275 280 285	864
gtg gaa ggg tcg gtg ttc gtg aac cag agc ctg gcg acc gac ctg gcg Val Glu Gly Ser Val Phe Val Asn Gln Ser Leu Ala Thr Asp Leu Ala 290 295 300	912
aac acg ggg ttc ttc acc gac gcc gac gtc gcc cgg atc gtc gcg ctc Asn Thr Gly Phe Phe Thr Asp Ala Asp Val Ala Arg Ile Val Ala Leu 305 310 315 320	960
gcc ggg gag cgg aac gcc acc acc gtg tac agc atc gag gcc acg ctc Ala Gly Glu Arg Asn Ala Thr Thr Val Tyr Ser Ile Glu Ala Thr Leu 325 330 335	1008
aac tac gac aac gcc acg gcg gcg gcg gcg gtg gac cag gag ctc gcg Asn Tyr Asp Asn Ala Thr Ala Ala Ala Val Asp Gln Glu Leu Ala 340 345 350	1056
tcc gtg ctg ggc acg ctg agc tac gtg gaa ggg ttc gcg ttc cag cgc Ser Val Leu Gly Thr Leu Ser Tyr Val Glu Gly Phe Ala Phe Gln Arg	1104

355	360	365	
gac gtg tcc tac acg gcg ttc ctt gac cgg gtg cac ggc gag gag gtg Asp Val Ser Tyr Thr Ala Phe Leu Asp Arg Val His Gly Glu Glu Val 370 375 380			1152
gcg ctc aac aag ctg ggg ctg tgg cgg gtg ccg cac ccg tgg ctc aac Ala Leu Asn Lys Leu Gly Leu Trp Arg Val Pro His Pro Trp Leu Asn 385 390 395 400			1200
atg ttc gtg ccg cgc tcg cgc atc gcc gac ttc gac cgc ggc gtc ttc Met Phe Val Pro Arg Ser Arg Ile Ala Asp Phe Asp Arg Gly Val Phe 405 410 415			1248
aag ggc atc ttg cag ggc acc gac atc gtc ggc ccg ctc atc gtc tac Lys Gly Ile Leu Gln Gly Thr Asp Ile Val Gly Pro Leu Ile Val Tyr 420 425 430			1296
ccc ctc aac aaa tcc atg tgg gac gac ggc atg tcg gcg gcg acg ccg Pro Leu Asn Lys Ser Met Trp Asp Asp Gly Met Ser Ala Ala Thr Pro 435 440 445			1344
tcg gag gac gtg ttc tac gcg gtg tcg ctg ctc ttc tcg tcg gtg gcg Ser Glu Asp Val Phe Tyr Ala Val Ser Leu Leu Phe Ser Ser Val Ala 450 455 460			1392
ccc aac gac ctg gcg agg ctg cag gag cag aac agg agg atc ctg cgc Pro Asn Asp Leu Ala Arg Leu Gln Glu Gln Asn Arg Arg Ile Leu Arg 465 470 475 480			1440
ttc tgc gac ctc gcc ggg atc cag tac aag acc tac ctg gcg cgg cac Phe Cys Asp Leu Ala Gly Ile Gln Tyr Lys Thr Tyr Leu Ala Arg His 485 490 495			1488
acg gac cgc agt gac tgg gtc cgc cac ttc ggc gcc gcc gag tgg aat Thr Asp Arg Ser Asp Trp Val Arg His Phe Gly Ala Ala Glu Trp Asn 500 505 510			1536
cgc ttc gtg gag atg aag aac aag tac gac ccc aag agg ctg ctc tcc Arg Phe Val Glu Met Lys Asn Lys Tyr Asp Pro Lys Arg Leu Leu Ser 515 520 525			1584
ccc ggc cag gac atc ttc aac tga Pro Gly Gln Asp Ile Phe Asn 530 535			1608

<210> 2
 <211> 535
 <212> PRT
 <213> Zea mays

<400> 2
 Met Ala Val Val Tyr Tyr Leu Leu Leu Ala Gly Leu Ile Ala Cys Ser
 1 5 10 15
 His Ala Leu Ala Ala Gly Thr Leu Ala Leu Gly Glu Asp Arg Gly Arg
 20 25 30
 Pro Trp Pro Ala Phe Leu Ala Ala Leu Ala Leu Asp Gly Lys Leu Arg
 35 40 45
 Thr Asp Ser Asn Ala Thr Ala Ala Ala Ser Thr Asp Phe Gly Asn Ile
 50 55 60
 Thr Ser Ala Leu Pro Ala Ala Val Leu Tyr Pro Ser Ser Thr Gly Asp

65					70					75				80	
Leu	Val	Ala	Leu	Leu	Ser	Ala	Ala	Asn	Ser	Thr	Pro	Gly	Trp	Pro	Tyr
				85					90					95	
Thr	Ile	Ala	Phe	Arg	Gly	Arg	Gly	His	Ser	Leu	Met	Gly	Gln	Ala	Phe
			100					105					110		
Ala	Pro	Gly	Gly	Val	Val	Val	Asn	Met	Ala	Ser	Leu	Gly	Asp	Ala	Ala
		115					120					125			
Ala	Ala	Ala	Pro	Pro	Arg	Val	Asn	Val	Ser	Ala	Asp	Gly	Arg	Tyr	Val
	130					135					140				
Asp	Ala	Gly	Gly	Glu	Gln	Val	Trp	Ile	Asp	Val	Leu	Arg	Ala	Ser	Leu
145					150					155					160
Ala	Arg	Gly	Val	Ala	Pro	Arg	Ser	Trp	Thr	Asp	Tyr	Leu	Tyr	Leu	Thr
			165						170					175	
Val	Gly	Gly	Thr	Leu	Ser	Asn	Ala	Gly	Ile	Ser	Gly	Gln	Ala	Phe	Arg
			180					185					190		
His	Gly	Pro	Gln	Ile	Ser	Asn	Val	Leu	Glu	Met	Asp	Val	Ile	Thr	Gly
		195					200					205			
His	Gly	Glu	Met	Val	Thr	Cys	Ser	Lys	Gln	Leu	Asn	Ala	Asp	Leu	Phe
	210					215					220				
Asp	Ala	Val	Leu	Gly	Gly	Leu	Gly	Gln	Phe	Gly	Val	Ile	Thr	Arg	Ala
225					230					235					240
Arg	Ile	Ala	Val	Glu	Pro	Ala	Pro	Ala	Arg	Ala	Arg	Trp	Val	Arg	Leu
			245						250					255	
Val	Tyr	Thr	Asp	Phe	Ala	Ala	Phe	Ser	Ala	Asp	Gln	Glu	Arg	Leu	Thr
		260						265					270		
Ala	Pro	Arg	Pro	Gly	Gly	Gly	Gly	Ala	Ser	Phe	Gly	Pro	Met	Ser	Tyr
		275					280					285			
Val	Glu	Gly	Ser	Val	Phe	Val	Asn	Gln	Ser	Leu	Ala	Thr	Asp	Leu	Ala
	290					295					300				
Asn	Thr	Gly	Phe	Phe	Thr	Asp	Ala	Asp	Val	Ala	Arg	Ile	Val	Ala	Leu
305					310					315					320
Ala	Gly	Glu	Arg	Asn	Ala	Thr	Thr	Val	Tyr	Ser	Ile	Glu	Ala	Thr	Leu
			325						330					335	
Asn	Tyr	Asp	Asn	Ala	Thr	Ala	Ala	Ala	Ala	Val	Asp	Gln	Glu	Leu	Ala
		340						345					350		
Ser	Val	Leu	Gly	Thr	Leu	Ser	Tyr	Val	Glu	Gly	Phe	Ala	Phe	Gln	Arg
		355					360					365			
Asp	Val	Ser	Tyr	Thr	Ala	Phe	Leu	Asp	Arg	Val	His	Gly	Glu	Glu	Val
	370					375					380				
Ala	Leu	Asn	Lys	Leu	Gly	Leu	Trp	Arg	Val	Pro	His	Pro	Trp	Leu	Asn
385					390					395					400
Met	Phe	Val	Pro	Arg	Ser	Arg	Ile	Ala	Asp	Phe	Asp	Arg	Gly	Val	Phe
			405						410					415	
Lys	Gly	Ile	Leu	Gln	Gly	Thr	Asp	Ile	Val	Gly	Pro	Leu	Ile	Val	Tyr
		420						425					430		
Pro	Leu	Asn	Lys	Ser	Met	Trp	Asp	Asp	Gly	Met	Ser	Ala	Ala	Thr	Pro
		435					440					445			
Ser	Glu	Asp	Val	Phe	Tyr	Ala	Val	Ser	Leu	Leu	Phe	Ser	Ser	Val	Ala
	450					455					460				
Pro	Asn	Asp	Leu	Ala	Arg	Leu	Gln	Glu	Gln	Asn	Arg	Arg	Ile	Leu	Arg
465					470					475					480
Phe	Cys	Asp	Leu	Ala	Gly	Ile	Gln	Tyr	Lys	Thr	Tyr	Leu	Ala	Arg	His
			485						490					495	
Thr	Asp	Arg	Ser	Asp	Trp	Val	Arg	His	Phe	Gly	Ala	Ala	Glu	Trp	Asn
		500						505					510		
Arg	Phe	Val	Glu	Met	Lys	Asn	Lys	Tyr	Asp	Pro	Lys	Arg	Leu	Leu	Ser
		515					520					525			
Pro	Gly	Gln	Asp	Ile	Phe	Asn									
	530					535									

<210> 3
<211> 51

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthesized based on sequence from *Agrobacterium tumefaciens*

 <400> 3
 caucaucauc auggatccac caatggatct acgtctaatt ttcggtccaa c 51

 <210> 4
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthesized based on sequence from *Agrobacterium tumefaciens*

 <400> 4
 cuacuacuac uagttaactc acattcgaaa tgggtggctcct tc 42

 <210> 5
 <211> 29
 <212> DNA
 <213> *Zea mays*

 <400> 5
 catgccatgg cggtgggttta ttacctgct 29

 <210> 6
 <211> 31
 <212> DNA
 <213> *Zea mays*

 <400> 6
 cgggatcctc atcatcagtt gaagatgtcc t 31

 <210> 7
 <211> 5622
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Promoter and terminator from *Zea mays* as found in Genbank Accession #S78780; gene from *Agrobacterium tumefaciens* as found in Molecular and General Genetics 216:388-394 (1989).

 <400> 7
 gctctagatt atataattta taagctaaac aaccgcggccc taaagcacta tcgtatcacc 60
 tatctaaata agtcacggga gtttcgaacg tccacttcgt cgcacggaat tgcattgttc 120
 ttggttgaag catattcacg caatctccac acataaagggt ttatgtataa acttacattt 180
 agctcagttt aattacagtc ttatttggat gcatatgtat ggttctcaat ccatataagt 240
 tagagtaaaa aataagttta aattttatct taattcactc caacatatat ggatctacaa 300
 tactcatgtg catccaaaca aactacttat attgaggtga atttggtaga aattaaacta 360
 acttacacac taagccaatc ttactatat taaagcacca gtttcaacga tcgtcccgcg 420
 tcaatattat taaaaaactc ctacatttct ttataatcaa cccgcactct tataatctct 480
 tctctactac tataataaga gagtttatgt acaaaataag gtgaaattat ctataagtgt 540
 tctggatatt ggttggtggc tcccatattc acacaacctc atcaatagaa aacatatgtt 600
 ttattaaaaac aaaattttatc atatataata tatatatata tatcatatat atatataaac 660
 cgtagcaatg cacgggcata taactagtgc aacttaatac atgtgtgtat taagatgaat 720

aagaggggat	ccaaataaaa	aacttggtgc	ttacgtatgg	atcgaaaggg	gttggaacg	780
attaaacgat	taaatctctt	cctagtcaaa	attgaataga	aggagattta	atatatccca	840
atccccctcg	atcatccagg	tgcaaccgta	taagtcctaa	agtgggtgagg	aacacgaaag	900
aaccatgcat	tggcatgtaa	agctccaaga	atttggtgta	tccttaacaa	ctcacagaac	960
atcaacaaaa	attgcacgtc	aagggtattg	ggtaagaaac	aatcaaaaaa	atcctctctg	1020
tgtgcaaaga	aacacgggtga	gtcatgccga	gatacactc	atctgatata	catgcttaca	1080
gctcacaaga	cattacaaac	aactcatatt	gcattacaaa	gacggtttca	tgaaaaataa	1140
aataggccgg	acaggacaaa	aatccttgac	gtgtaaagta	aattttacaac	aaaaaaaaag	1200
ccatatgtca	agctaaatct	aattcgtttt	acgtagatca	acaacctgta	gaaggcaaca	1260
aaactgagcc	acgcagaagt	acagaatgat	tcagatgaa	ccatcgacgt	gctacgtaaa	1320
gagagtgcg	agtcataatc	atttggaag	aaacatgaa	gctgcctaca	gccgtatcgg	1380
tggcataaga	acacaagaaa	ttgtgttaat	taatcaaagc	tataaataac	gctcgcacgc	1440
ctgtgcactt	ctccatcacc	accactgggt	cttcagacca	ttagctttat	ctactccaga	1500
gcgcagaaga	acccgatcga	caccatggat	ctacgtctaa	ttttcggtcc	aacttgcaca	1560
ggaaagacat	cgactgcgat	agctcttgcc	cagcagactg	gcctcccagt	cctctcgctc	1620
gatcgcgctc	aatgctgtcc	tcaactatca	accggaagcg	ggcgaccaac	agtggaaaga	1680
ctgaaaggaa	cgactcgtct	gtaccttgat	gatcgccctt	tggtaaaggg	tatcattaca	1740
gccaaagcaag	ctcatgaacg	gctcattgcg	gaggtgcaca	atcacgaggc	caaaggcggg	1800
cttattcttg	agggaggatc	tatctcgttg	ctcaggtgca	tggcgcaaag	tcgttattgg	1860
aacgcgggatt	ttcggtggca	tattattcgc	aacgagttag	cagacgagga	gagcttcatg	1920
agcgtggcca	agaccagagt	taagcagatg	ttacgcccct	ctgcaggtct	ttctattatc	1980
caagagttgg	ttcaactttg	gagggagcct	cggtgagggc	ccatactgga	agggatcgat	2040
ggatatcgat	atgccttgct	atttgcctacc	cagaaccaga	tcacgcccga	tatgctattg	2100
cagctcgacg	cagatatgga	gaataaattg	attcacggta	tcgctcagga	gtttctaate	2160
catgcgcgtc	gacaggaaca	gaaattccct	ttgggtggcg	cgacagctgt	cgaagcggtt	2220
gaaggaccac	catttcgaat	gtgagttgat	ccccggcggt	gtccccact	gaagaaacta	2280
tgtgctgtag	tatagccgct	ggctagctag	ctagttgagt	catttagcgg	cgatgattga	2340
gtaataatgt	gtcacgcac	accatgcacg	ggtggcagtc	tcagtgtgag	caatgacctg	2400
aatgaacaat	tgaaatgaaa	agaaaaaggt	attgttccaa	attaaacgtt	ttaacctttt	2460
aataggttta	tacaataatt	gatatatgtt	ttctgtatat	gtctaatttg	ttatcatcca	2520
tttagatata	gacgaaaaaa	aatctaagaa	ctaaaaacaa	tgctaatttg	aatgaaggg	2580
agtatatatt	gggataatgt	cgatgagatc	cctcgtaata	tcaccgacat	cacacgtgtc	2640
cagttaatgt	atcagtgata	cgtgtattca	catttggttg	gcgtaggcgt	acccaacaat	2700
tttgatcgac	tatcagaaaag	tcaacggaag	cgagtcgacc	tcgagggggg	gcccggctacc	2760
aagatatcaa	ccgcggaaaag	atctaagcat	gcaagggccc	aagtcgacct	gcagaagctt	2820
gcatgcctgc	agtcgacgtg	gacccggctg	tgccccctct	tagagataat	gagcattgca	2880
tgtctaagtt	ataaaaaatt	accacatatt	ttttttgtca	caactgtttg	aagtgcagtt	2940
tatctatctt	tatacatata	tttaaacttt	actctacgaa	taatataatc	tatagtacta	3000
caataatate	agtgttttag	agaatcatat	aaatgaacag	ttagacatgg	tctaaaggac	3060
aattgagtat	tttgacaaca	ggactctaca	gttttatctt	tttagtgtgc	atgtgttctc	3120
cttttttttt	gcaaataget	tcacctatat	aatacttcat	ccatttttatt	agtacatcca	3180
tttagggttt	aggggttaatg	gttttttatag	actaattttt	ttagtacatc	tatttttatc	3240
tatttttagcc	tctaaattaa	gaaaaactaa	actctatttt	agttttttta	tttaataaatt	3300
tagatataaa	atagaataaa	ataaagtgc	taaaaattaa	acaaataccc	tttaagaatt	3360
taaaaaaact	aaggaaacat	ttttcttggt	tcgagtagat	aatgccagcc	tgttaaacgc	3420
cgtcgatcga	cgagtctaac	ggacaccaac	cagcgaacca	gcagcgctgc	gtcgggccaa	3480
gcgaagcaga	cggcacggca	tctctgtcgc	tgccctctgga	ccccctctga	gagttccgct	3540
ccaccgttgg	acttgctccg	ctgtcggcat	ccagaaattg	cgtggcggag	cggcagacgt	3600
gagccggcac	ggcaggcggc	ctcctcctcc	tctcacggca	cggcagctac	gggggattcc	3660
tttcccaccg	ctccttctgt	ttcccttctc	cgcccgccgt	aataaataga	cacccccgcc	3720
acacctctct	tccccaacct	cgtgttggtc	ggagcgcaca	cacacacaac	cagatctccc	3780
ccaaatccac	ccgtcggcac	ctccgcttca	aggtacgccg	ctcgtcctcc	cccccccccc	3840
ctctctacct	tctctagatc	ggcggtccgg	tccatgggta	gggcccggta	gttctacttc	3900
tgttcatggt	tgtgttagat	cgtgtttctg	gttagatccg	tgctgctagc	gttcgtacac	3960
ggatgcgacc	tgtacgtcag	acacgttctg	attgctaact	tgccagtgtt	tctctttggg	4020
gaatcctggg	atggctctag	cgttccgca	gacgggateg	atttcatgat	tttttttggt	4080
tcgttgcata	gggtttgggt	tgcccttttc	ctttatttca	atatatgccg	tgcaacttgtt	4140
tgtcgggtca	tcttttcatg	cttttttttg	tcttggttgt	gatgatgtgg	tctgggtggg	4200
cggctcgttct	agatcggagt	agaattctgt	ttcaaaactac	ctgggtggatt	tattaatttt	4260
ggatctgtat	gtgtgtgcca	tacatattca	tagttacgaa	ttgaagatga	tggttgga	4320
tatcgatcta	ggataggtat	acatgttgat	gcggtgttta	ctgatgcata	tacagagatg	4380
ctttttgttc	gcttgggtgt	gatgatgtgg	tgtgggtggg	cggtcgttca	ttcgttctag	4440

atcggagtag	aataactgttt	caaactacct	ggtgtattta	ttaatttttg	aactgtatgt	4500
gtgtgtcata	catcttcata	gttacgagtt	taagatggat	ggaaatatcg	atctaggata	4560
ggtatacatg	ttgatgtggg	ttttactgat	gcatatacat	gatggcatat	gcagcatcta	4620
ttcatatgct	ctaaccttga	gtacctatct	attataataa	acaagtatgt	tttataatta	4680
ttttgatctt	gatatacttg	gatgatggca	tatgcagcag	ctatatgttg	atTTTTTTtag	4740
ccctgccttc	atacgctatt	tatttgcttg	gtactgtttc	ttttgtcgat	gtcaccctg	4800
ttgtttggtg	ttactttctg	aggtcgaccg	ccggggatcc	acacgacacc	atgtcccccg	4860
agcgccgccc	cgtcgagatc	cgcccgccca	ccggcccgca	catggccgcc	gtgtgcgaca	4920
tcgtgaacca	ctacatcgag	acctccaccg	tgaacttccg	caccgagccg	cagacccccg	4980
aggagtggat	cgacgacctg	gagcgccctc	aggaccgcta	cccgtggctc	gtggccgagg	5040
tggagggcgt	ggtggccggc	atcgccctacg	ccggcccggtg	gaaggcccg	aacgcctacg	5100
actggaccgt	ggagtcacc	gtgtacgtgt	cccaccgcca	ccagcgccctc	ggcctcggtc	5160
ccaccctcta	caccacctc	ctcaagagca	tggaggccca	gggcttcaag	tccgtgggtg	5220
ccgtgatcgg	cctcccgaac	gacccgtccg	tgcgcctcca	cgaggccctc	ggctacaccg	5280
cccgcgccac	cctccgcgcc	gccggctaca	agcacggcgg	ctggcacgac	gtcggcttct	5340
ggcagcgcg	cttcgagctg	ccggccccc	cgcgcccggt	gcgcccgggtg	acgcagatct	5400
gagtcgacct	gcaggcatgc	cgctgaaatc	accagtctct	ctctacaaat	ctatctctct	5460
ctataataat	gtgtgagtag	ttcccagata	agggaattag	ggttcttata	gggtttcgct	5520
catgtgttga	gcatataaga	aacccttagt	atgtatttgt	atttgtaaaa	tacttctatc	5580
aataaaattt	ctaattccta	aaaccaaaat	ccagtggcga	gc		5622

<210> 8

<211> 2722

<212> DNA

<213> Artificial Sequence

<220>

<223> Promoter from *Hordeum vulgare*, Plant Journal 6:849-860 (1994); gene from *Agrobacterium tumefaciens*, Molecular and General Genetics 216:388-394 (1989); terminator from *Zea mays*, Genbank Accession #S78780.

<400> 8

cgcccgctct	agaactagtg	gatctcgatg	tgtagtctac	gagaagggtt	aaccgtctct	60
tcgtgagaat	aaccgtggcc	taaaaataag	ccgatgagga	taaataaaat	gtggtgggtac	120
agtacttcaa	gaggtttact	catcaagagg	atgcttttcc	gatgagctct	agtagtacat	180
cggacctcac	atacctccat	tgtggtgaaa	tattttgtgc	tcatttagtg	atgggtaaat	240
tttgtttatg	tcactctagg	ttttgacatt	tcagttttgc	cactcttagg	ttttgacaaa	300
taattttccat	tccgcggcaa	aagcaaaaaca	attttatatt	acttttacca	ctcttagctt	360
tcacaatgta	tcacaaatgc	cactctagaa	attctgttta	tgccacagaa	tgtgaaaaaa	420
aacactcact	tattttgaagc	caagggtgtc	atggcatgga	aatgtgacat	aaagtaacgt	480
tcgtgtataa	gaaaaaattg	tactcctcgt	aacaagagac	ggaaacatca	tgagacaatc	540
gcgtttggaa	ggctttgcat	cacctttgga	tgatgcgcac	gaatggagtc	gtctgcttgc	600
tagccttcgc	ctaccgcccc	ctgagtcggg	gcggcaacta	ccatcggcga	acgaccagc	660
tgacctctac	cgaccggact	tgaatgcgct	accttcgcta	gcgacgatgg	ccgcgtacgc	720
tggcgacgtg	cccccgcatg	catggcgcca	catggcgagc	tcagaccgtg	cgtggctggc	780
tacaaatacg	taccccgtag	gtgccctagc	tagaaactta	cacctgcaac	tgcgagagcg	840
agcgtgtgag	tgtagccgag	tagatcccc	gggctgcagc	ttatttttac	aacaattacc	900
aacaacaaca	aacaacaaac	aacattacaa	ttactattta	caattacagt	cgacggatca	960
agtgcaaagg	tccgccttgt	ttctcctctg	tctcttgatc	tgactaatct	tggtttatga	1020
ttcgttgagt	aattttgggg	aaagcttcgt	ccacagtttt	tttttcgatg	aacagtgccg	1080
cagtggcgct	gatcttgtat	gctatcctgc	aatcgtgggtg	aacttatgtc	ttttatatcc	1140
ttcactacca	tgaaaagact	agtaatcttt	ctcgatgtaa	catcgtccag	cactgctatt	1200
accgtgtggt	ccatccgaca	gtctggctga	acacatcata	cgatattgag	caaagatcga	1260
tctatcttcc	ctgttcttta	atgaaagacg	tcattttcat	cagtatgac	taagaatggt	1320
gcaacttgca	aggaggcggt	tctttctttg	aatttaacta	actcgttgag	tgccctgtgt	1380
tctcggaagt	aaggcctttg	ctgctccaca	catgtccatt	cgaattttac	cgtgttttagc	1440
aagggcgaaa	agtttgcata	ttgatgattt	agcttgacta	tgcgattgct	ttcctggacc	1500
cgtgcagctg	cggacggatc	caccatggat	ctacgtctaa	ttttcgggtc	aacttgcaca	1560
ggaaagacat	cgactgcgat	agctcttgcc	cagcagactg	gcctcccagt	cctctcgctc	1620

gatcgcgctcc	aatgctgtcc	tcaactatca	accggaagcg	ggcgaccaac	agtggaagaa	1680
ctgaaaggaa	cgactcgtct	gtaccttgat	gatcgccctt	tggtaaaggg	tatcattaca	1740
gccaaagcaag	ctcatgaacg	gctcattgcg	gaggtgcaca	atcacgaggc	caaaggcggg	1800
cttattcttg	agggaggatc	tatctcgttg	ctcaggtgca	tggcgcaaag	tcgttattgg	1860
aacgcggatt	ttcgttggca	tattattcgc	aacgagttag	cagacgagga	gagcttcattg	1920
agcgtggcca	agaccagagt	taagcagatg	ttacgcccct	ctgcaggctc	ttctattatc	1980
caagagttgg	ttcaactttg	gagggagcct	cggctgaggc	ccatactgga	agggatcgat	2040
ggatatcgat	atgccctgct	atttgctacc	cagaaccaga	tcacgcccga	tatgctattg	2100
cagctcgacg	cagatatgga	gaataaattg	attcacggta	tcgctcagga	gtttctaate	2160
catgcgcgtc	gacaggaaca	gaaattccct	ttggtgggcg	cgacagctgt	cgaagcgttt	2220
gaaggaccac	catttcgaat	gtgagttgat	ccccggcggt	gtccccact	gaagaaacta	2280
tgtgctgtag	tatagccgct	ggctagctag	ctagttgagt	catttagcgg	cgatgattga	2340
gtaataatgt	gtcacgcctc	accatgcatg	ggtggcagtc	tcagtgtgag	caatgacctg	2400
aatgaacaat	tgaaatgaaa	agaaaaaagt	attgttccaa	attaaacgtt	ttaacctttt	2460
aataggttta	tacaataatt	gatatatgtt	ttctgtatat	gtctaatttg	ttatcatcca	2520
tttagatata	gacgaaaaaa	aatctaagaa	ctaaaacaaa	tgctaatttg	aaatgaaggg	2580
agtatatatt	gggataatgt	cgatgagatc	cctcgttaata	tcaccgacat	cacacgtgtc	2640
cagttaatgt	atcagtgata	cgtgtattca	catttggtgc	gcgtaggcgt	acccaacaat	2700
tttgatcgac	tatcagaaag	tc				2722

<210> 9

<211> 2722

<212> DNA

<213> Artificial Sequence

<220>

<223> Promoter from Zea mays, U.S. patent application 09/377,648;
gene from Agrobacterium tumefaciens, Molecular and General
Genetics 216:388-394 (1989); terminator from Solanum
tuberosum, Plant Cell 1(1):115-122 (1989).

<400> 9

cgggcgctct	agaactagt	gatctcgat	tgtagtctac	gagaagggtt	aaccgtctct	60
tcgtgagaat	aaccgtggcc	taaaaataag	ccgatgagga	taaataaaat	gtggtggtac	120
agtacttcaa	gaggtttact	catcaagagg	atgcttttcc	gatgagctct	agtagtacat	180
cggacctcac	atacctccat	tgtggtgaaa	tattttgtgc	tcatttagtg	atgggtaaat	240
tttgtttatg	tcaacttagg	ttttgacatt	tcagttttgc	cactcttagg	ttttgacaaa	300
taatttccat	tccgcggcaa	aagcaaaaaca	attttatttt	actttttacca	ctcttagctt	360
tcacaatgta	tcacaaatgc	cactctagaa	attctgttta	tgccacagaa	tgtgaaaaaa	420
aacactcact	tattttgaagc	caaggtgttc	atggcatgga	aatgtgacat	aaagtaacgt	480
tcgtgtataa	gaaaaaattg	tactcctcgt	aacaagagac	ggaaacatca	tgagacaatc	540
gcgtttggaa	ggctttgcat	cacctttgga	tgatgcgcac	gaatggagtc	gtctgcttgc	600
tagccttcgc	ctaccgcca	ctgagtcagg	gcggcaacta	ccatcggcga	acgaccacgc	660
tgacctctac	cgaccggact	tgaatgcgct	accttcgtca	gcgacgatgg	ccgcgtacgc	720
tggcgacgtg	ccccgcgatg	catggcggca	catggcgagc	tcagaccgtg	cgtggctggc	780
tacaaatacg	taccccgtag	gtgccctagc	tagaaactta	cacctgcaac	tgcgagagcg	840
agcgtgtgag	tgtagccgag	tagatcccc	gggctgcagc	ttattttttac	aacaattacc	900
aacaacaaca	aacaacaaac	aacattacaa	ttactattta	caattacagt	cgacggatca	960
agtgcaaagg	tccgccttgt	ttctcctctg	tctcttgatc	tgactaatct	tggtttatga	1020
ttcgttgagt	aattttgggg	aaagcttcgt	ccacagtttt	tttttcgatg	aacagtgcgc	1080
cagtggcgct	gatcttgtat	gctatcctgc	aatcgtggtg	aacttatgtc	ttttatatcc	1140
ttcactacca	tgaaaagact	agtaatcttt	ctcgatgtaa	catcgtccag	cactgctatt	1200
accgtgtggt	ccatccgaca	gtctggtgga	acacatcata	cgatattgag	caaagatcga	1260
tctatcttcc	ctgttcttta	atgaaagacg	tcatttttcat	cagtatgatc	taagaatgtt	1320
gcaacttgca	aggaggcgtt	tctttctttg	aatttaacta	actcgttgag	tggccctggt	1380
tctcggacgt	aaggcctttg	ctgctccaca	catgtccatt	cgaattttac	cgtgttttagc	1440
aagggcgaaa	agtttgcac	ttgatgattt	agcttgacta	tgcgattgct	ttcctggacc	1500
cgtgcagctg	cggacggatc	caccatggat	ctacgtctaa	ttttcggctc	aacttgacac	1560
ggaaagacat	cgactgcgat	agctcttgcc	cagcagactg	gcctcccagt	cctctcgtc	1620
gatcgcgctcc	aatgctgtcc	tcaactatca	accggaagcg	ggcgaccaac	agtggaagaa	1680
ctgaaaggaa	cgactcgtct	gtaccttgat	gatcgccctt	tggtaaaggg	tatcattaca	1740
gccaaagcaag	ctcatgaacg	gctcattgcg	gaggtgcaca	atcacgaggc	caaaggcggg	1800

cttattcttg	agggaggatc	tatctcgttg	ctcaggtgca	tggcgcaaag	tcgttattgg	1860
aacgcggatt	ttcggtggca	tattattcgc	aacgagttag	cagacgagga	gagcttcatg	1920
agcgtggcca	agaccagagt	taagcagatg	ttacgcccct	ctgcaggtct	ttctattatc	1980
caagagtttg	ttcaactttg	gagggagcct	cggctgaggc	ccatactgga	agggatcgat	2040
ggatatcgat	atgccctgct	atttgctacc	cagaaccaga	tcacgcccga	tatgctattg	2100
cagctcgacg	cagatatgga	gaataaattg	attcacggta	tcgctcagga	gtttctaatc	2160
catgcgcgtc	gacaggaaca	gaaattccct	ttggtgggcg	cgacagctgt	cgaagcgttt	2220
gaaggaccac	catttcgaat	gtgagttgat	ccccggcggt	gtccccact	gaagaaacta	2280
tgtgctgtag	tatagccgct	ggctagctag	ctagttgagt	catttagcgg	cgatgattga	2340
gtaataatgt	gtcacgcatc	accatgcatg	ggtggcagtc	tcagtgtgag	caatgacctg	2400
aatgaacaat	tgaaatgaaa	agaaaaaagt	attgttccaa	attaaacggt	ttaacctttt	2460
aataggttta	tacaataatt	gatatatgtt	ttctgtatat	gtctaatttg	ttatcatcca	2520
tttagatata	gacgaaaaaa	aatctaagaa	ctaaaacaaa	tgctaatttg	aaatgaaggg	2580
agtatatatt	gggataatgt	cgatgagatc	cctcgtaata	tcaccgacat	cacacgtgtc	2640
cagttaatgt	atcagtgata	cgtgtattca	catttgttgc	gcgtaggcgt	acccaacaat	2700
tttgatcgac	tatcagaaaag	tc				2722

<210> 10
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized based on sequence from *Agrobacterium tumefaciens*

<400> 10
 gcgtccaatg ctgtcctcaa cta

23

<210> 11
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized based on sequence from *Agrobacterium tumefaciens*

<400> 11
 gctctcctcg tctgctaact cgt

23

<210> 12
 <211> 3017
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Promoter from *Zea mays*, Genbank Accession #L22344;
 Gene from *Agrobacterium tumefaciens*, Molecular and
 General Genetics 216:388-394 (1989); terminator from
Zea mays, Genbank Accession #L22345.

<400> 12	
ttgccgagtg	ccatccttgg
ccaaactttt	tgtggtatgt
ttacatattt	acaaaaatgt
ttcggaaaat	tcacatttaa
ataaatgata	tgcatgttat
cttcaagcac	catgctcact
gtataaaaca	caaataaagt
tatagagggt	gtgataaaaa
gaaacctaag	tgacctacac
acaactcgata	aagtatatatt
tcttataaaa	tattagattt
actgcaagtc	actcgaaaca
ttacgaccga	tttcagaagc
aaacatgacc	gtgaacttgt
cagaaattaa	tgaaacttgt
tttgataatg	tttcggtaaa
agagtttcaa	tgtagttcac
atctacacta	tgtagatcta
agttcgttta	tttgaatttc
tggaataaccg	tgcatgcaaa
agaccagaat	tttcaaaatt
ccacatgtca	tgatatcata
actatgtgta	
tcgacaaaga	

ctttgtcaag	tgtccgataa	aaagtactcg	acaaagaagc	cgttgtcgat	gtactgttcg	600
tcgagatctc	tttgtcgagt	gtcacactag	gcaaagtctt	tacggagtg	ttttcaggct	660
ttgacactcg	gcaaagcgct	cgattccagt	agtgacagta	atttgcacat	aaaatagctg	720
agagatttag	gccccgtttc	aatctcacgg	gataaagttt	agcttccctg	taaacttttag	780
ctatatgaat	tgaagtgtca	aagtttagtt	tcaattacca	ccattagctc	tctgttttag	840
attacaaatg	gctaaaaagta	gctaaaaaat	agctgctaaa	gtttatctcg	cgagattgaa	900
acagggcctt	aaaatgagtc	aactaataga	ccaactaatt	attagctatt	agtcggttagc	960
ttctttaatc	taagctaaaa	ccaactaata	gcttatttgt	tgaattacaa	ttagctcaac	1020
ggaattctct	gttttttctaa	aaaaaaactg	ccccctctct	acagcaaatt	gtccgctgcc	1080
cgctgctccag	atacaatgaa	cgtacctagt	aggaactctt	ttacacgctc	ggctgctcgc	1140
cgcggtatcgg	agtccccgga	acacgacacc	actgtggaac	acgacaaagt	ctgtctcagag	1200
gcggccacac	cctggcggtg	accgagccgg	agccccgata	agcacggtaa	ggagagtacg	1260
gcgggacgtg	gcgacccgtg	tgtctgctgc	cacgcagcct	tcctccacgt	agccgcgcgg	1320
ccgcgccacg	taccagggcc	cggcgctggt	ataaatgcgc	gccacctccg	cttttagttct	1380
gcatacagcc	aacccaagga	tccaacaatg	gatctacgtc	taattttcgg	tccaacttgc	1440
acaggaaaga	catcgactgc	gatagctctt	gcccagcaga	ctggcctccc	agtcctctcg	1500
ctcgatcgcg	tccaatgctg	tcctcaacta	tcaaccggaa	gcgggcgacc	aacagtggaa	1560
gaactgaaag	gaacgactcg	tctgtacctt	gatgatcgcc	ctttggtaaa	gggtatcatt	1620
acagccaagc	aagctcatga	acggctcatt	gcggaggtgc	acaatcacga	ggccaaaggc	1680
gggcttattc	ttgaggagg	atctatctcg	ttgtctcaggt	gcatggcgca	aagtcgttat	1740
tggaaacgcg	attttcggtt	gcatattatt	cgcaacgagt	tagcagacga	ggagagcttc	1800
atgagcgtgg	ccaagaccag	agttaagcag	atgttacgcc	cctctgcagg	tctttctatt	1860
atccaagagt	tggttcaact	ttggaggagg	cctcggtgta	ggcccatact	ggaagggatc	1920
gatggatatc	gatatgccct	gctatttgc	accagaacc	agatcacgcc	cgatatgcta	1980
ttgcagctcg	acgcagatat	ggagaataaa	ttgattcacg	gtatcgctca	ggagtttcta	2040
atccatgcgc	gtcgacagga	acagaaattc	cctttgggtg	gcgcgacagc	tgctgaagcg	2100
tttgaaggac	caccatttcg	aatgtgagtt	aactatgtac	gtaagcggca	ggcagtgcaa	2160
taagtgtggc	tctgtagtat	gtacgtgcgg	gtacgatgct	gtaagctact	gaggcaagtc	2220
cataaataaa	taatgacacg	tgcgtgttct	ataatctctt	cgtttcttca	tttgtcccct	2280
tgcggagtgt	ggcatccatt	gatgcggtta	cgctgagaac	agacacagca	gacgaaccaa	2340
aagtgagttc	ttgtatgaaa	ctatgacctt	tcctcgctag	gctcaaacag	caccccgctac	2400
gaacacagca	aattagtcac	ctaactatta	gcccctacat	gtttcagacg	atacataaat	2460
atagcccatc	cttagcaatt	agctattggc	cctgcccata	ccaagcaatg	atctcgaagt	2520
atttttaata	tatagtattt	ttaatatgta	gcttttaaaa	ttagaagata	attttgagac	2580
aaaaatctcc	aagtattttt	ttgggtattt	tttactgcct	ccgtttttct	ttatttctcg	2640
tcacctagtt	taattttgtg	ctaactcggt	ataaacgaaa	cagagagaaa	agttactcta	2700
aaagcaactc	caacagatta	gatataaatc	ttatatcctg	cctagagctg	ttaaaaagat	2760
agacaacttt	agtggattag	tgtatgcaac	aaactctcca	aattttaagta	tcccaactac	2820
ccaacgcata	tcgttccctt	ttcattggcg	cacgaacttt	cacctgctat	agccgacgta	2880
catgttcggt	ttttttgggc	ggcgcttact	ttcttccccg	ttcgttctca	gcacgcgaac	2940
tcaatttggt	atggcggaga	agcccttgta	tcccaggtag	taatgcacag	atatgcatta	3000
ttattattca	taaaaga					3017